

ABSTRACT OF THE DISCLOSURE

A VSB reception system includes a sequence generator for decoding a symbol corresponding to the supplemental data and generating a predefined sequence included in the supplemental data at VSB transmission system. The reception system also includes a modified legacy VSB receiver for processing the data received from the VSB transmission system in a reverse order of the VSB transmission system by using the sequence, and a demultiplexer for demultiplexing the data from the modified legacy VSB receiver into the MPEG data and the supplemental data. The VSB reception system also includes a supplemental data processor for processing the supplemental data segment from the demultiplexer in a reverse order of the transmission system, to obtain the supplemental data, thereby carrying out the slicer prediction, decoding, and symbol decision more accurately by using the predefined sequence, to improve a performance.